Force Protection of Forward Operating Bases in Baghdad

By Captain Jason M. Railsback

As the 16th Engineer Battalion arrived on the ground in Baghdad, Iraq, the No. 1 priority for all units was force protection. Units under 1st Brigade, 1st Armored Division, occupied central Baghdad east of the Tigris River. The major challenge facing units in the heart of the densely populated city was finding suitable and defendable terrain for forward operating bases (FOBs). This article reflects the impressions and experiences of a mechanized combat engineer company commander. It also describes the engineer mission three months into the deployment. Before deploying to the U.S. Central Command area of responsibility, our unit was unsure if we were going into high-intensity conflict (HIC), stability operations, or support operations. As it turned out, we are supporting all three. This article provides the military engineering community—particularly lieutenants and captains—some practical tactics, techniques, and procedures (TTP) used during Operation Iraqi Freedom and shows the flexibility required to accomplish the many nontraditional missions.

Task Organization

Charlie Company, 16th Engineer Battalion, is a mechanized combat engineer line company with a standard modified table of organization and equipment (MTOE). With the available resources, stability operations and support operations are challenging but not impossible. The company did not task-organize in support of a task force as we typically execute during HIC training. We remained under the command and control of the engineer battalion. Missions in this theater typically require a platoon-sized element. Remaining under the engineer battalion allowed the company to work throughout the area and support all task forces under the brigade combat team. On several occasions, missions required an operational control (OPCON) relationship of engineer squads and platoons to the maneuver company teams for support during raids and listening post/observation post execution.

The most valuable resource we have is our M998 high-mobility, multipurpose wheeled vehicles (HMMWVs). To move quickly and effectively in an urban setting, HMMWVs are critical. M113 armored personnel carriers (APCs) provide better force protection and make a more forceful presence, but with narrow streets, congested traffic, and low-hanging power lines, the HMMWVs provide better mobility and flexibility. We were supported by National Guard and Reserve combat engineers with dump trucks, bucket loaders, wheeled cranes, and additional HMMWVs. On many missions, these OPCON units proved invaluable due to their lifting and hauling capabilities and because they augmented our force protection strength. Because of the threats of ambushes and improvised explosive devices, the 1st Armored Division requires that convoys have a minimum of two vehicles with at least two crew-served weapon systems. As the threat and associated force protection levels changed, some convoys required three or more vehicles. This made it very difficult to execute concurrent missions. Even though our current MTOE does not support it, units on

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a stability operations and support operations deployment need an increase of at least two HMMWVs per platoon. Even with the additional support from outside military units, many missions still require host nation support.

Contracting and Host Nation Support

A great deal of the manpower and equipment resourcing in Baghdad is contracted though local businesses. There are many difficulties. In addition to the language barrier, there are problems with paying for services, ensuring that the service quality is acceptable, and ensuring that the job is completed on time. The first step in contracting is linking the right contractor to the job requirements. Once the contractor is selected, you must escort him to the job site and allow him to make an estimate. After an agreement on the payment has been reached, the battalion must find resources for the project. If the project is for an FOB, the funds come from a battalion-level field ordering officer. If the project is outside of an FOB (to improve Iraqi public services or for emergencies), the funding is from the brigade commander's Emergency Response Program fund. All other contracts are submitted though the division resource manager**,** who will approve the overall project and forward it to the contracting office. Contracting receives bids from local contractors and selects the contractor. Once the price is agreed upon and the funding is obtained, the local national contractor begins work. The engineer company's responsibility is to report the progress of the project and ensure that standards are maintained. Once the project is completed, the company will revisit the site, ensure that all the work was completed to standard, and arrange payment for the contractor.

Location

Charlie Company was responsible for FOBs in the oldest and most built-up urban areas of Baghdad, east of the Tigris River. Units either occupied the previous unit's structures or established new ones. The various facilities included one of Saddam's palaces, an amusement park on an island, a bank, and many government ministry buildings. Providing adequate force protection in these areas was challenging.

Military vehicle selection for missions depends on the time of day and the area. The HMMWV is optimal to maneuver in downtown Baghdad, compared to the alternative—the M113 APC. During the day, the streets are virtually impassable in certain areas. Streets designed to handle four lanes of traffic are narrowed down to one direction by vendors moving their carts into the road, closing off the outer lanes. Pedestrians, automobiles, and donkey carts clog the streets. In some sectors of the city, it can take more than an hour to move one to two city blocks at midday.

Mission Planning and Execution

Constructing force protection in an urban environment follows the same principles learned at the U.S. Army Engineer School and the combat training centers (CTCs). It is still the engineer lieutenant on the ground coordinating linkup with the maneuver force, assessing the situation, making a plan, and executing it. Serpentines and fighting positions must still be proofed. Unlike at the Engineer School and the CTCs, your work is tested the next day. You know very soon if the barriers you constructed will prevent drive-by shootings, car bombings, sniper attacks, or angry mobs from interfering with FOB operations. Certain aspects of working in Baghdad add a new complexity to the combat engineer role. Many lessons on Class IV and barrier materials, equipment, and emplacement were learned—and learned quickly.

Construction Materials and Equipment

Initially the supply and resupply of Class IV materials was an issue. Units from the 3d Infantry Division used whatever was available for the immediate force protection requirement. This included vehicles—both military and civilian—as barriers, Iraqi "concertina/barbed wire," rubble, and earthen berms. As the battalion accepted the mission in East Baghdad, improvements were needed for a longer-term solution. Hesco® bastions (see photo on page 14) and concertina wire became the primary resources for temporary barriers and walls. Units should be prepared to hit the ground with an initial combat load of barrier materials and understand the terrain they may occupy.

Hesco fill material is another issue when working in an urban environment. Sources within the confines of a concrete landscape are limited. Contracting through local sources was crucial to mission accomplishment. Initially, combat heavy engineers and corps wheeled engineer units were not available to assist. Our battalion does have six organic small emplacement excavators (SEEs), but they could not fill the large number of Hescos required. Company FOBs needed an average of 100 Hescos for their perimeter, entrance gates, dismounted and mounted positions, and serpentines at entrances. The SEE tractor can fill a Hesco in about 10 trips as opposed to a 5 1/2-yard bucket loader that can load three large Hescos at a time in only two trips. Hescos proved to be an adequate temporary solution, but in high-traffic areas, they tend to break apart after vehicles cut corners too sharply.

The battalion formed and supervised Task Force Rascal, which consisted of 60 Iraqi civilians, one 5 1/2-yard bucket loader, and two civilian 15-cubic-meter dump trucks. The Iraqi workers would arrive on-site with loads of gravel or dirt and refill from a pre-positioned dumpsite at the 16th Engineer Battalion base camp (Camp Ultimo). On many occasions, fill material was drawn from within the FOB where we were working or from the immediate outer perimeter. This was a temporary fix, but in some instances this created a mobility concern. Digging in the city exposes water and sewer lines and creates large amounts of dust. As the availability of Hesco bastions ran short, the 3d Infantry Division's Engineer Brigade (distributor of Class IV supplies for the division) provided 55-gallon drums and other materials.

A barrier in front of the Palestine Hotel in Baghdad was constructed using 55-gallon drums with pickets and concertina wire.

We were able to find additional uses for these drums, other than as clearing barrels and fuel reservoirs. By using them as supports for 8-foot pickets, and also as a barrier filled with rock, the nonstandard wall proved efficient and readily available. This method of fencing was invaluable in concrete terrain when the only alternative was using the SEE truck's hydraulic picket pounder to drive an 8-foot picket through the highway pavement or sidewalk.

New Jersey barriers, better known as concrete highway dividers, were initially in short supply. Measuring 9 feet long by 3 1/2 feet high, they are perfect for the urban terrain and were used primarily as serpentines to FOB entrances and traffic lane dividers. The heavy expanded-mobility tactical truck (HEMTT) with a crane can transport and emplace up to ten barriers.

The SEE proved invaluable for FOB construction. The front bucket easily moves concrete flowerpots (similar to ones used at U.S. military facilities to impede traffic) to incorporate them into the defense plan. We also used flowerpots to redirect traffic and control movement on streets, sidewalks, and bridges. Fortunately, the former regime used flowerpots throughout the city for the same purpose, and they were in ample supply. We simply relocated them for our benefit.

Based on location and available resources, the use of Hescos around some perimeters was impractical. Initially, Bravo Company, 1st Battalion, 36th Infantry Regiment's FOB consisted of 300 meters of new cars that the previous unit had parked around the compound and then disabled. Seeking a better solution for force protection, the 1st Armored Division commander required the removal and upgrade of any FOB that used disabled vehicles. We hired an Iraqi contractor with a crane and flatbed trucks to remove the disabled vehicles. Due to the extensive frontage of the perimeter and the low supply of Hescos at the time, we used storm water piping (6 meters long by 1 1/2 meters in diameter) as barriers. These required a 30-ton crane, either from an Iraqi contractor or a heavy engineer company, to haul and emplace. The pipes will stop any attempt to ram or run the perimeter of the compound and are excellent protection from small arms and rocket-propelled grenade attacks.

Emplacement

The platoon and company leadership quickly learned that part of terrain analysis was thinking like an urban traffic engineer. As in other operations, assured mobility was essential. Traffic flow had to be considered not only for potential congestion but also for mission-execution planning. Closing off all civilian traffic in the vicinity of an FOB would be ideal for force protection. It would also assist in moving equipment in the area and giving soldiers the battlespace to work. However, during stability operations and support operations and trying to return a city to normal, city infrastructure and civilian traffic mobility must enter into planning considerations.

The weather is an important consideration. The temperature in June, July, and August can reach higher than 120 degrees Fahrenheit during the day. For soldiers traveling in a military vehicle with body armor and Kevlar®, the temperature far exceeds this. It is safer and equipment efficiency/productivity is much higher if the unit operates on a reverse-cycle schedule.

The Coalition Provisional Authority and U.S. forces imposed a 2300 curfew on the Iraqi people. The local population is out in the city and on the streets from 0800 until about 1600. After that, most people in Baghdad return to their homes to defend their property from looters. During the day, differentiating between the friendly and the enemy may be impossible until it is too late.

Banking District Missions

The missions we executed in the banking district help illustrate the benefits of performing missions at night in Baghdad. A platoon from 1st Battalion, 36th Infantry Regiment, had the mission to occupy and guard a series of Saddam's former banks in the oldest and most congested area of Baghdad. During the day, thousands of Iraqi people swarmed this platoon FOB, most with the intent to exchange currency, but some with the intent to do harm to each other and to the American soldiers guarding and regulating traffic in the facility. Working in this area in daylight was out of the question. We started force protection upgrades around 2100. Local gangs spent much of the night shooting at each other. Our vehicles moved to the side of the road, closer to buildings, to avoid being hit by the bullets that frequently whizzed up and down the narrow streets. Imagine working the controls of a HEMTT cargo crane, downloading New Jersey barriers, and stopping every 10 minutes to take cover. Once the shooting subsided, we returned to the mission and stopped work only when the mission was complete.

These experiences add definition to the term "combat engineer." Returning fire is difficult. Rarely do you see a muzzle flash, and the source of the rounds is usually unseen. Echoes make it extremely difficult to home in on the direction of fire. Even though the shots were close enough to "pop" the sound barrier and fill the air with the now-too-familiar cracking sound of a bullet passing close by your head, we could not return fire on a target.

On this site and others, FOB construction was driven by immediate necessity. FOB force protection became a phased operation: First, we built what we thought needed to be built. Second, we assessed what reaction the enemy had to our fortifications. Third, we developed controls based on the enemy reaction. It was an ongoing process. A day after we completed a Hesco and concertina perimeter at the banking district FOB, an enemy combatant threw a pipe bomb over the wall, hitting a tree the soldiers on guard were using for shade. The bomb exploded at eye level, killing one soldier. The next day our unit was back on-site with more wire, installing a guard tower and cutting down the tree inside the perimeter with chainsaws. We ensured that the guards were off the ground, eliminated obstructions, and increased the perimeter standoff. We hired Iraqi contractors to erect a 15-foot-high chain-link fence secured atop the Hescos, preventing further hand-thrown ordnance attacks.

Working at night also has its drawbacks. Iraqi unwillingness to work at night, rolling blackouts, and the lack of visibility are just some of the concerns. Iraqi civilians contracted to haul fill material and operate bucket loaders must be convinced to work at night. They must keep the vehicles at their homes to prevent theft. They are fearful of retribution due to contact with American forces. Many of our contracted truck operators received gunfire when leaving the work site. Iraq has rolling electrical blackouts. The grid system cannot support 100 percent power to all of Baghdad, and power production cannot meet the demand. To alleviate the strain on the utilities, officials turn power grids on and off throughout the day. Entire city blocks go dark for periods of two to four hours. Most work in the city is performed under white light. Night vision devices are used to spot snipers in windows and rooftops but overall are ineffective due to the lights of the city.

Storm water piping was used as a barrier for the perimeter of the compound.

Before 1st Battalion, 36th Infantry Regiment, could use this area inside the perimeter of its FOB for a motor pool, 26 dump truck loads of garbage had to be removed.

Nontraditional Combat Engineer Missions

Baghdad has a serious trash problem. Initially, all government agencies shut down during the major assault and occupation by U.S. forces. This included services such as trash removal. The local people turned to dumping their waste directly in front of their businesses or homes or on the highway. Many of the locations we intended to use as FOBs had to be cleared of debris first. The FOB site for Headquarters, 1st Battalion, 36th Infantry Regiment, for instance, required the removal of 26 dump truck loads of garbage. We took an Iraqi contractor to the site, estimated the amount of debris, agreed to a price and contracted for the removal, and provided security during the removal process.

We also supervised the destruction of biowaste from a hospital complex. The hospital's incinerator was non-operational, so the hospital staff deposited medical waste (to include needles, body parts, and used bandages) directly in front of the hospital. Moving the material posed a health risk, even for the contracted labor force, so we used armored combat earthmover teams to dig a large trench. All the waste was pushed in the trench, soaked in JP-8 jet fuel and motor gasoline (Mogas), and set aflame.

Another area of concern was the massive number of Iraqi military vehicles in the city and surrounding area that had been abandoned by Iraqi forces or destroyed by U.S. forces. As engineers, we accepted responsibility for hulk removal. Our battalion not only worked in the heart of the city but also in the outlying areas consisting of farmland, orchards, and irrigation canals. Again, the civilian population was used, contracting crane support and flatbed trucks to haul more than 100 vehicles out of the sector. Some of the vehicles included SA-7 rocket launchers, T-70 tanks, and bridging vehicles. Looters were quick to descend on these vehicles, mainly with the intent of taking wiring, aluminum, and other resources they could sell. We worked closely with 1st Brigade and Canadian explosive ordnance disposal (EOD) personnel to identify and supervise the removal of rockets and other explosives. We then turned the hulks over to Iraqi contractors for removal. We also worked with EOD personnel to identify caches of Iraqi Class V materials (mortars, rockets, bullets, and grenades) and assisted in their disposal.

Conclusion

Combat engineers in Iraq adapted to the conditions and met the challenges head-on. All the mission-essential task list-based training conducted before deployment could not have prepared us completely for the missions we received upon arrival. Many of them are very different from what we study at the Engineer School or during CTC rotations. To prepare, units must emphasize command and control at the platoon and squad levels, ensure redundancy of trained crews on crew-served weapons, and license all soldiers on the HMMWV.

As the Engineer School continues to train engineer leaders and develop the training plan for the Future Force, we need to add training on urban operations, stability operations, and support operations. Engineers must cross-train on TTP used by military police. New lieutenants given a fundamental background on nonlethal tactics, traffic control points, crowd control, and convoy operations would be better prepared to lead an operation that is somewhere between HIC and stability operations or support operations.

A typical mission requires the platoon leader to prepare, brief, and execute convoy operations, maintain control of crowds of curious spectators, and remain vigilant for those who wish to do harm. Much of the success on-site came from innovative and creative squad leaders and platoon leaders who used initiative to work with limited resources to accomplish the commander's end state.

Regardless of the spectrum of conflict, U.S. forces need force protection. Now our units operate from safe and secure FOBs, taking the fight to the enemy. Units are able to focus on offensive operations with their "backyards" secure.

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